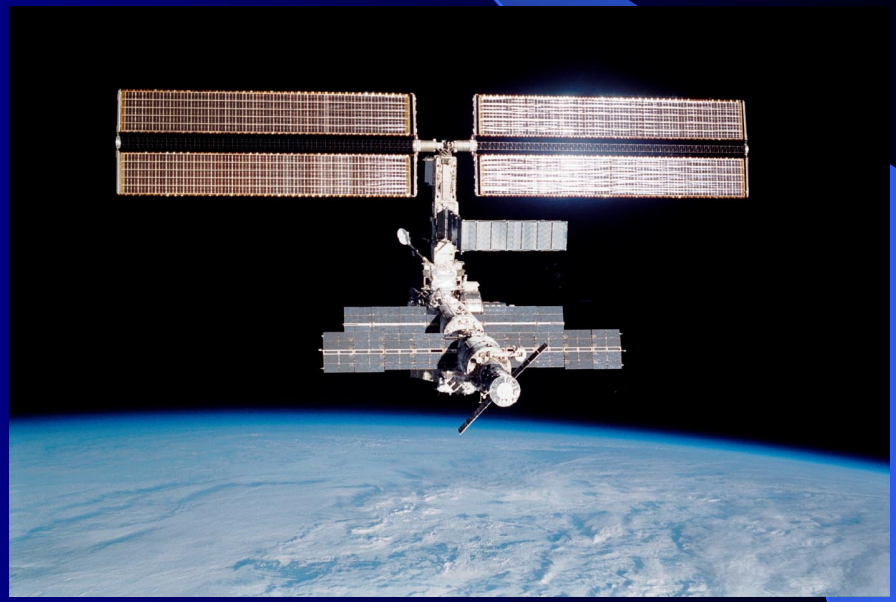
International Space Station Expedition 4

Carl Walz
NASA Headquarters
Washington D.C.



Expedition 4 Crew

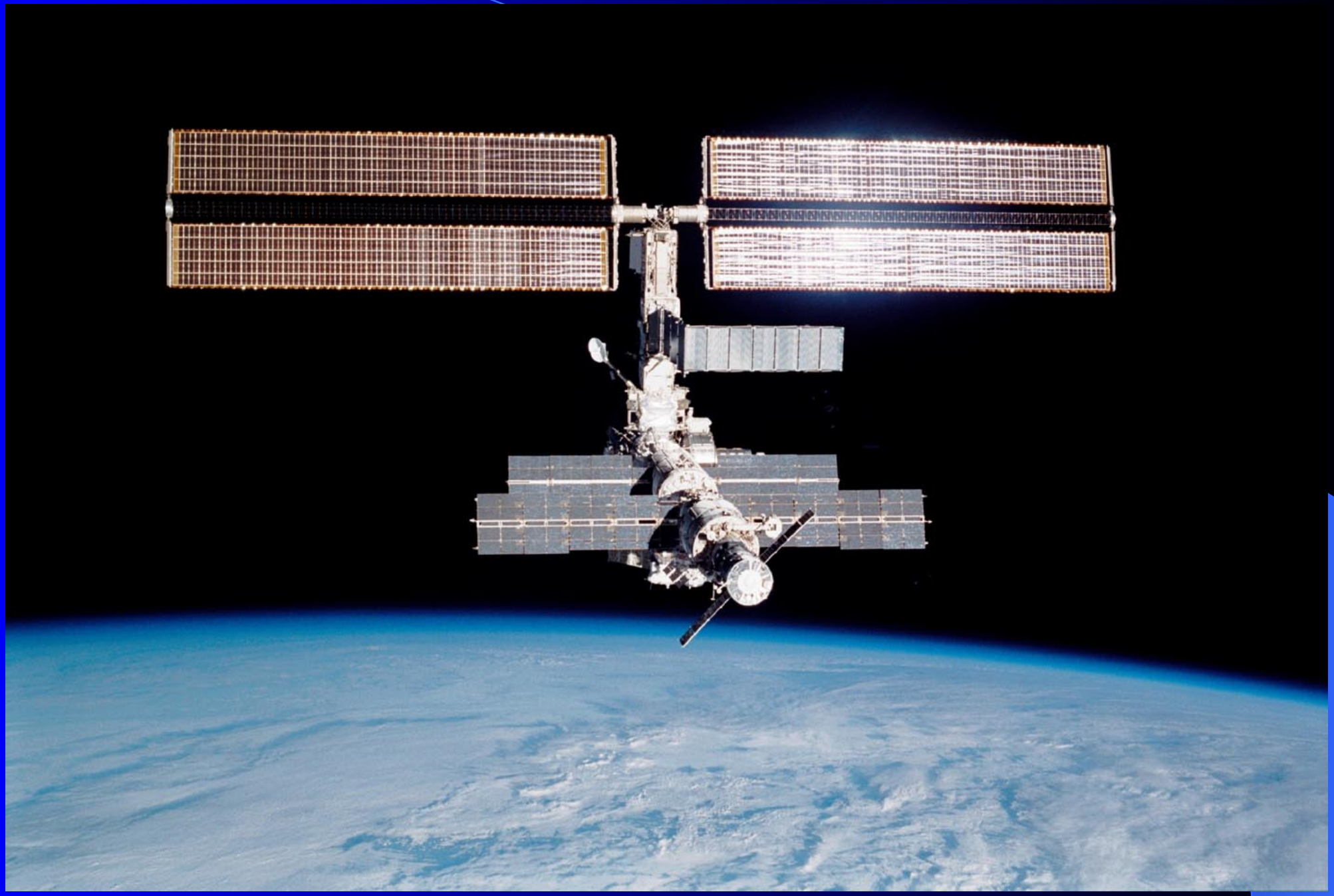
- Yuri Onufrienko – Colonel, Russian Air Force
  - Previous flights: 193 days on Mir (Mir 21)
- Dan Bursch – Captain, US Navy
  - Previous flights: STS-51, STS-68, STS-77
- Carl Walz – Colonel, US Air Force
  - Previous flights: STS-51, STS-65, STS-79

Expedition 4 Objectives

- Conduct Scientific Research
- Continue construction/outfitting of ISS
  - Robotics
  - Spacewalks
- Perform maintenance activities as required

Expedition 4 Vital Statistics

- Launched: 5 December 2001, STS-108
- Landed: 19 June 2002, STS-111
  - Total time in space 196 days
- Visiting Space crews: 2 (STS-110, Soyuz taxi crew
- Spacewalks: 3 (2 Russian, 1 US)
- Major additions: S0 truss on US lab



Equipment Transfer

ISS004E10025

Expedition 4 Science Overview

- Most experiments use facilities onboard station
  - Express Rack
  - Active Rack Isolation System (ARIS) Rack
  - Human Research Facility (HRF)
- Human experiments require Baseline Data Collection (BDC) pre and postflight
- Russian experiments conducted in Service Module

Human Research Facility

Ex 4 Life Science Experiments

- Interactions
- Renal Stone
- Pulmonary Function in Flight
- EV Radiation Monitoring
- H-Reflex
- Xenon 1 (pre/post flight)
- Subregional Bone (pre/post flight)

H-Reflex

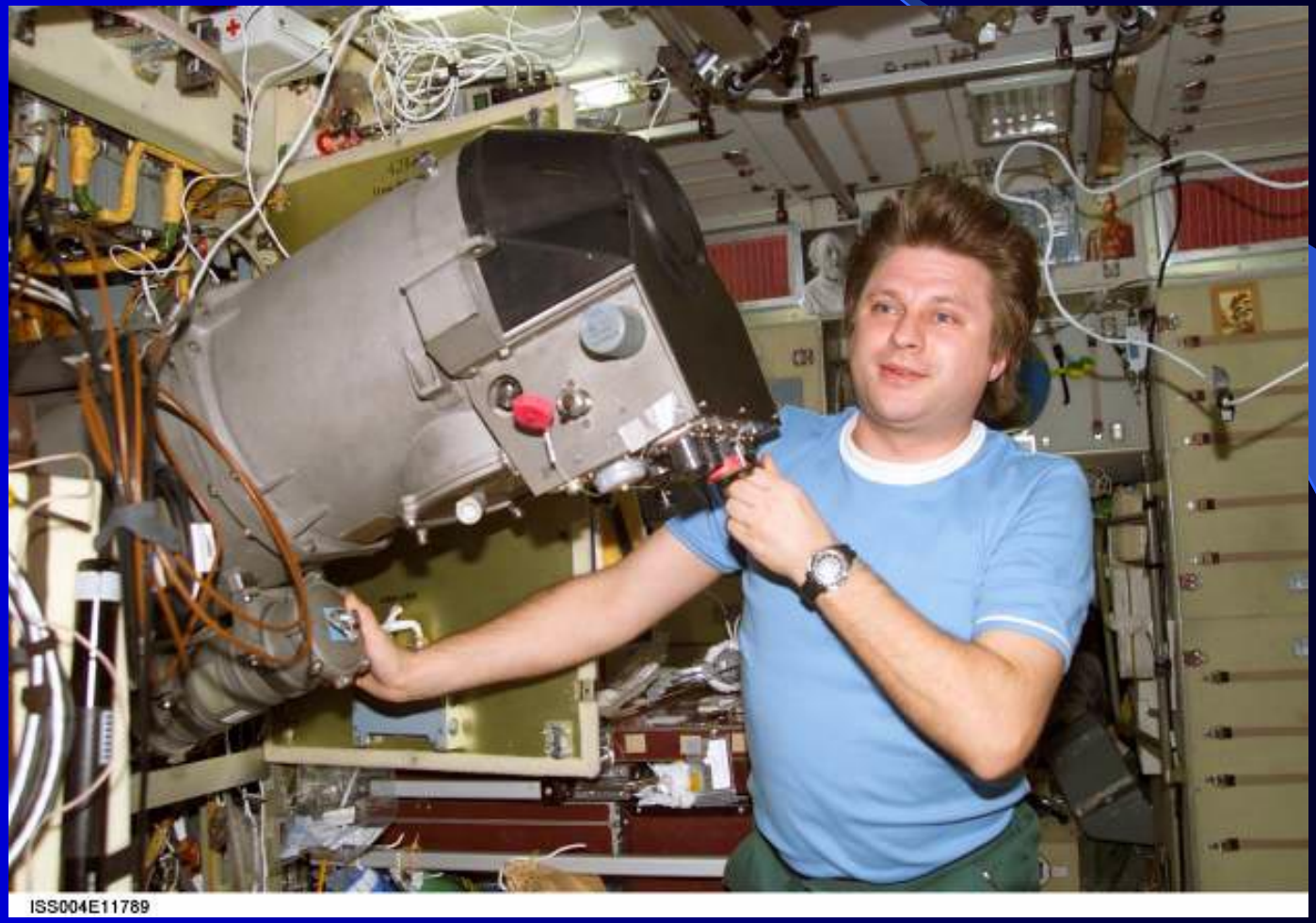
Cell Biology

Biomass Processing

A little off the side?

Exercise

Home Repair



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A little music?

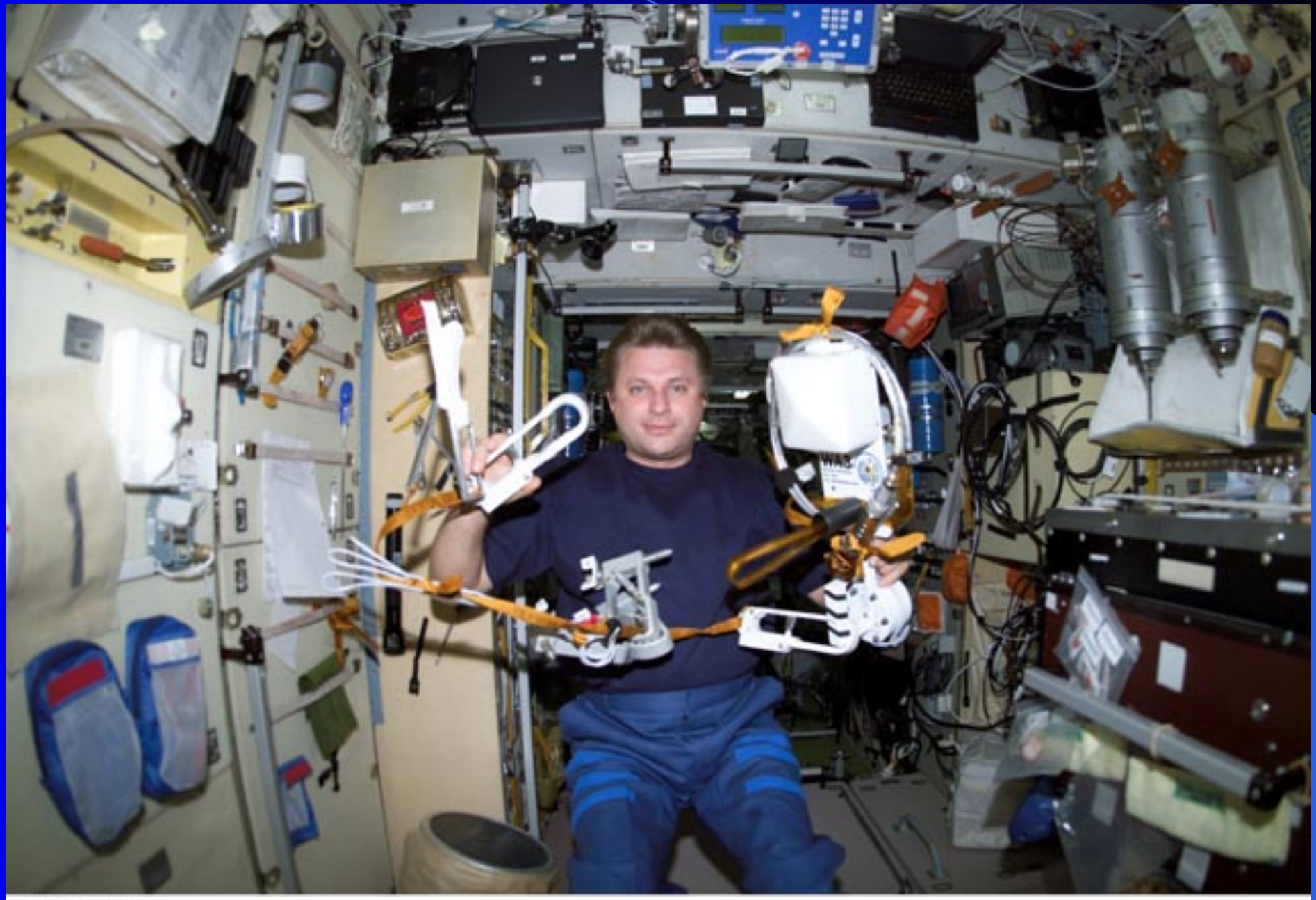
S111E5188

Communications with the world

Communications with the world

Ground Team at Harrowgate

Improving Communications



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Improving Communications

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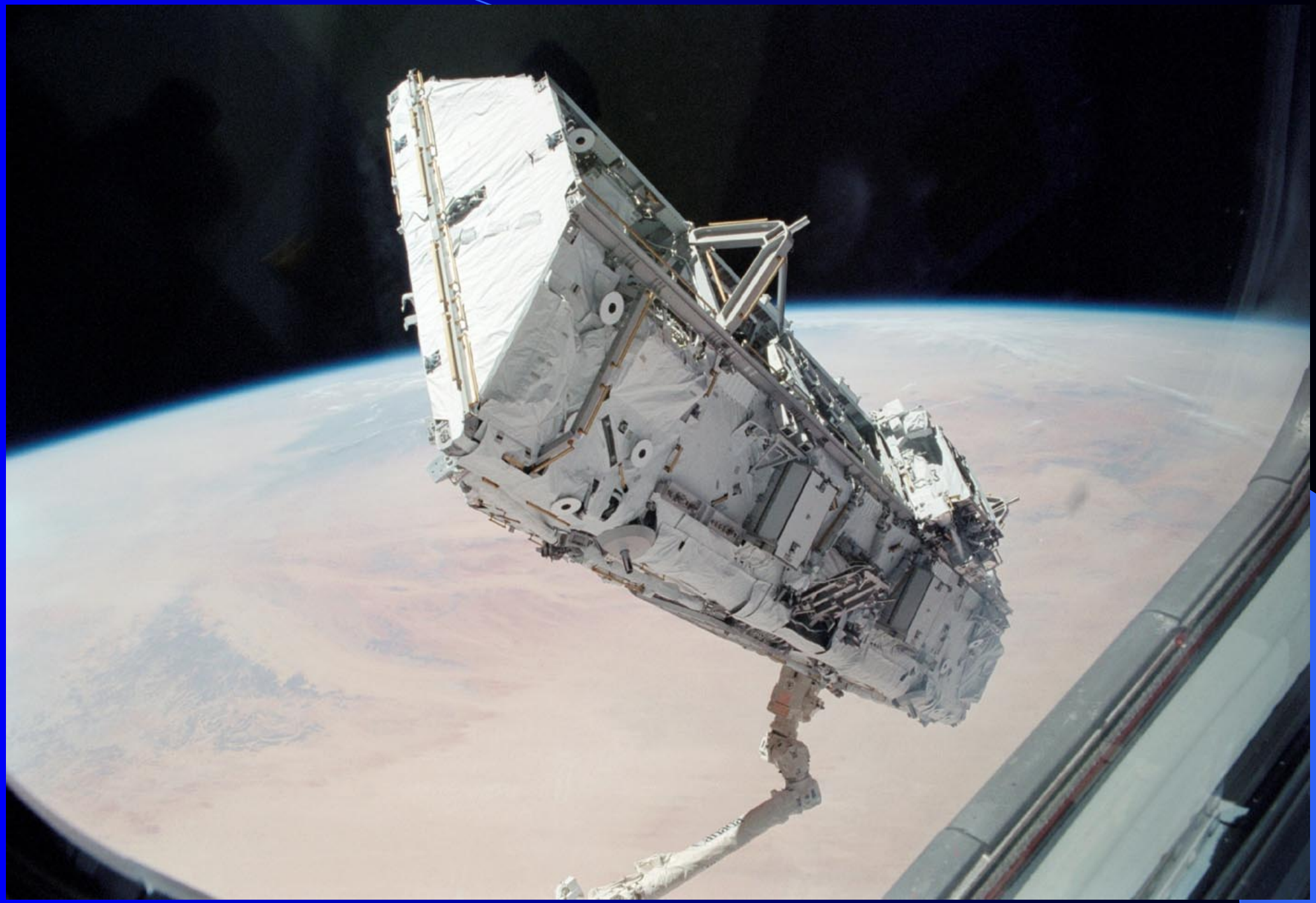
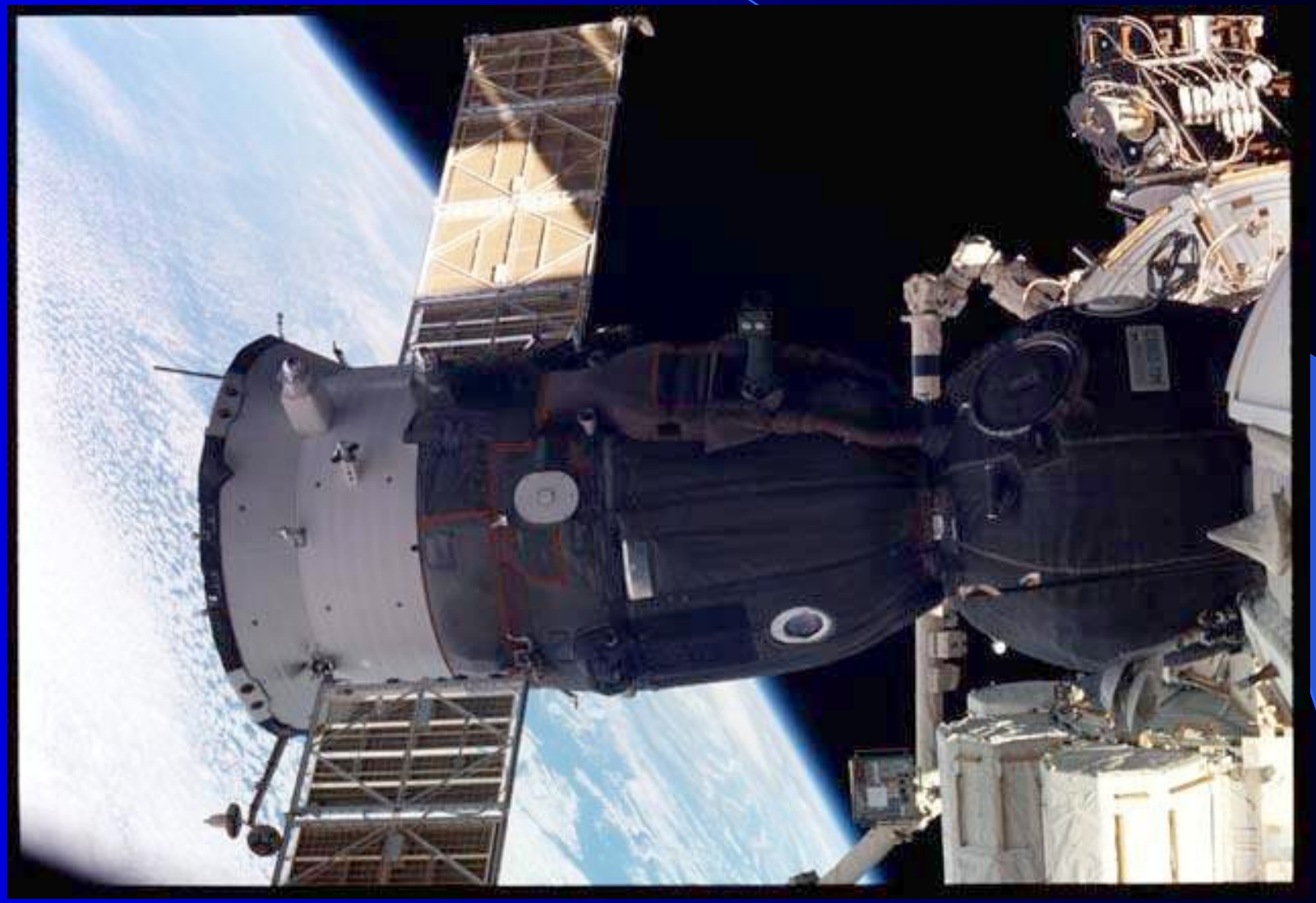
STS-110 Arrival



OVHD
HATCH
XIT

Soyuz TM



Moving the Soyuz

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Soyuz Taxi Crew

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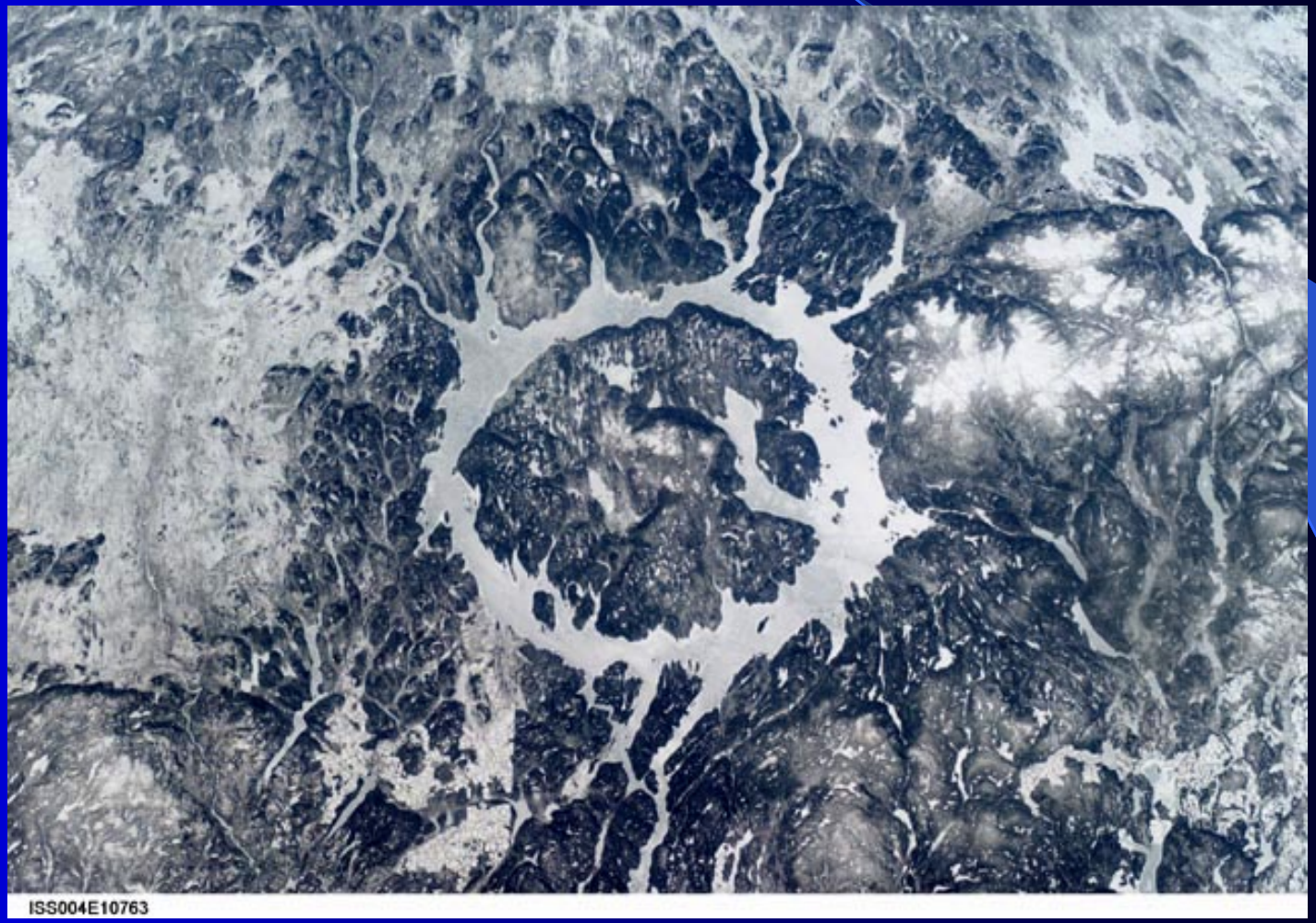
Crew Earth Observations



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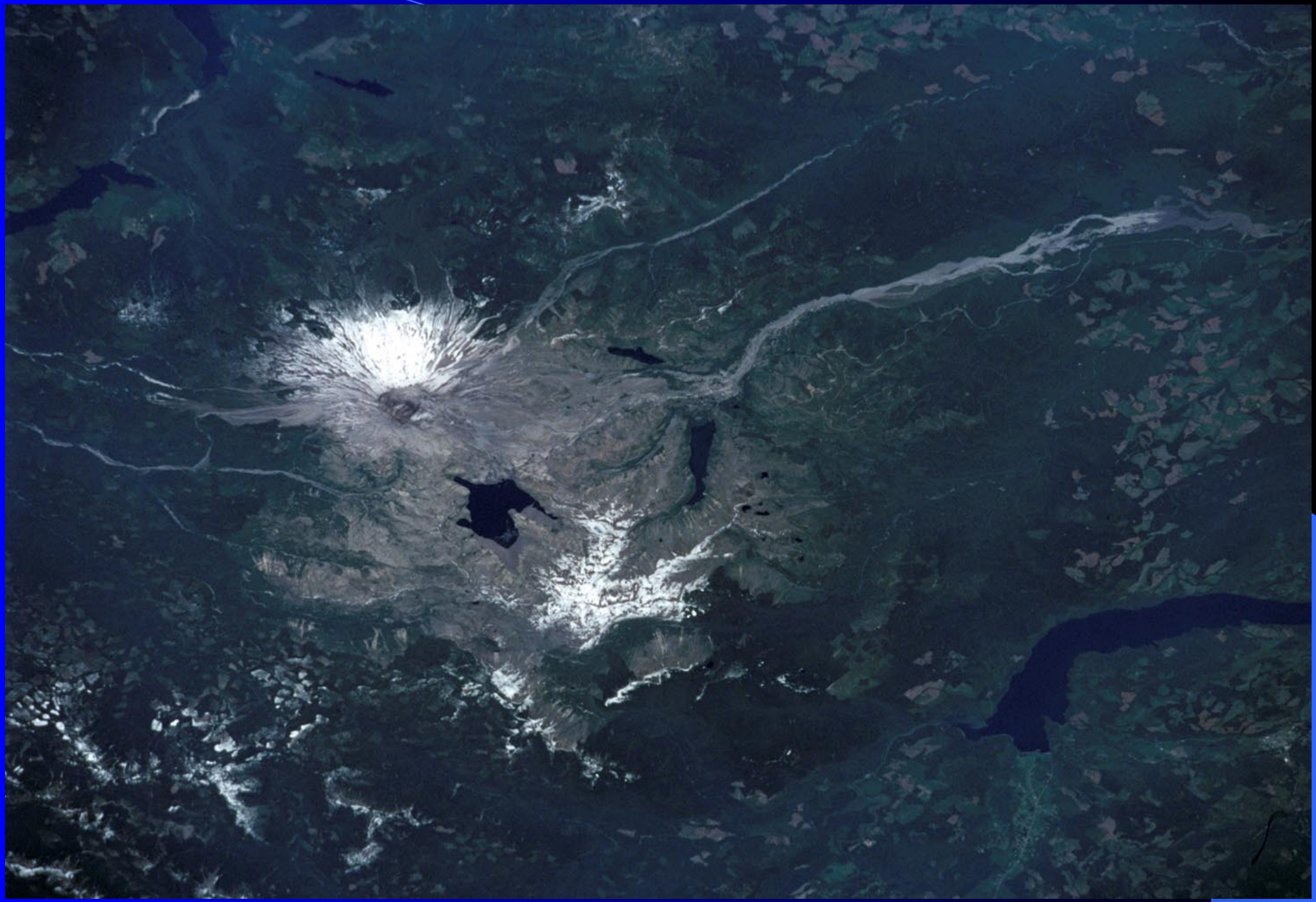

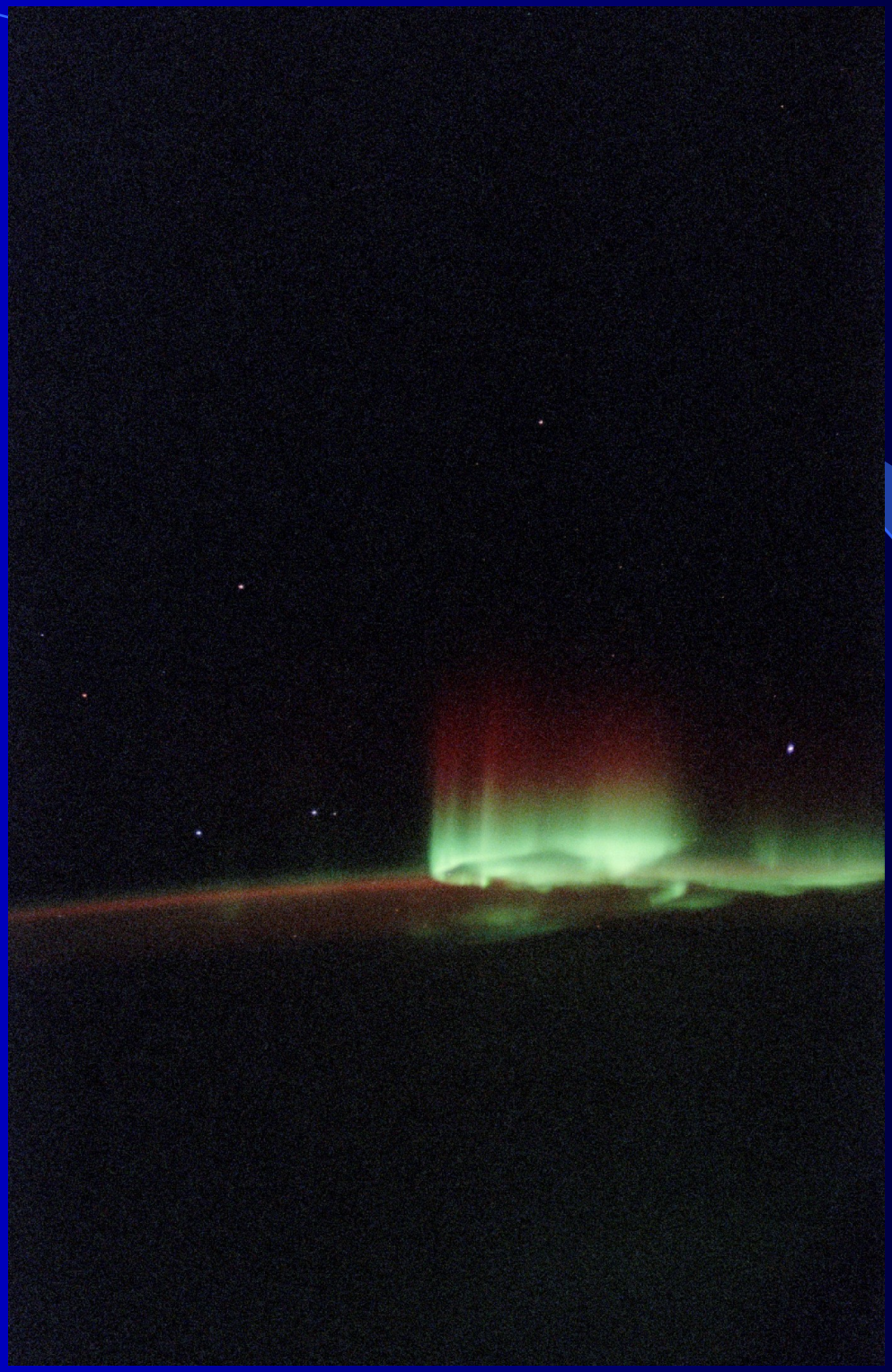

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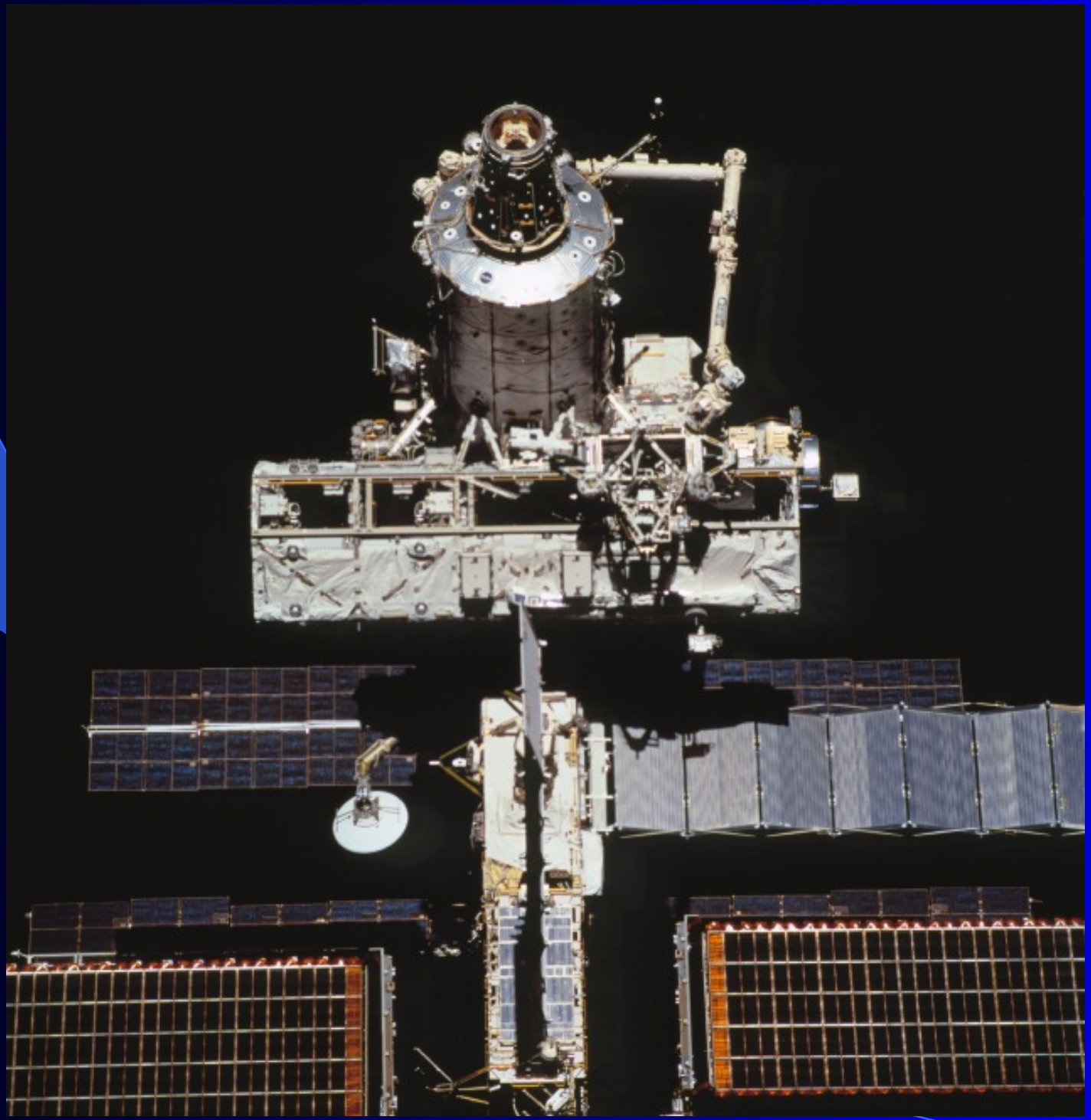

Endeavour
United States
6

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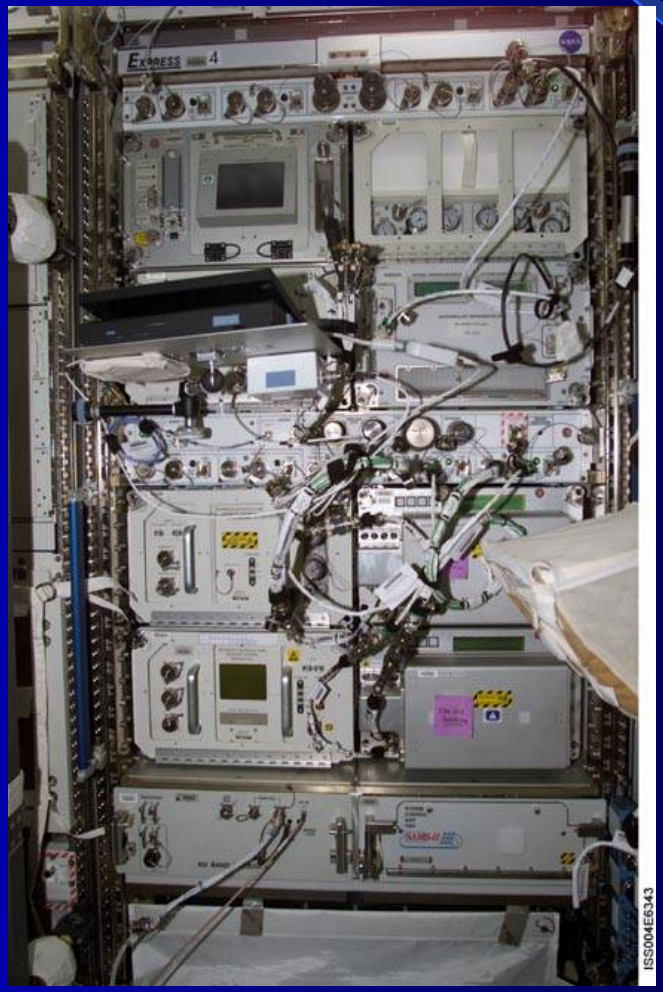
Crew Earth Observations

Crew Earth Observations

Communications with home

Kardio

EXPRESS RACK



Facilities

- Human Research Facility
  - Contains life sciences laboratory equipment for investigating the effects of microgravity on human physiology.
  - Specially modified EXPRESS Rack
  - Includes Gas Analyzer and Ultrasound equipment, electrical connections, cables and experiment computer.

EV ARM